Biology and Conservation of the Amphibians, Reptiles and their habitats in South Asia (Proceedings of the International Conference on the Biology and Conservation of the Amphibians and Reptiles of South Asia, Sri Lanka, August 1-5, 1996) October, 1998. pp. 285 - 293

SPECIES DIVERSITY AND SPECIES RICHNESS OF THE LEAF LITTER HERPETOFAUNA IN SRI LANKA: PRELIMINARY RESULTS

Indraneil Das & Anslem De Silva***
**Centre for Herpetology, Madras Crocodile Bank Trust, Post Bag 4, Mamallapuram, Tamil Nadu 603 104, India, **Faculty of Medicine, University of Peradeniya, Peradeniya, Sri Lanka*

ABSTRACT

We conducted inventories of the herpetofauna in litter plots within disturbed and primary forests at several locations in the wet zone, and one in the dry zone, of Sri Lanka, in an effort to enhance our understanding of species richness and species diversity of amphibians and reptiles. Preliminary results show high species diversity, but low species richness figures, suggestive of the link with mass fruiting of the Dipterocarpaceae and their consumers, as suggested for other Old World sites. The sole site showing high species richness values was a wet refugia within the dry zone. Taxonomic characteristics of the sites sampled include a greater species diversity of amphibians than of lizards, as expected in wet forests, the pattern known to be the reverse in dry forests, where lizards tend to replace frogs ecologically. Few snakes were encountered within study plots, possibly due to their capacity to sense low frequency ground-borne vibrations.

INTRODUCTION

The 65,000 sq km island of Sri Lanka (formerly Ceylon) is generally divided into three climatic zones, of which the wet zone account for 23 per cent of the land area. The island has greater biodiversity per unit area than any other Asian country, this wealth focussed in the mesic south-western lowlands and the central highlands. The wet zone also supports the greatest human population density within the island (approximately two-third of the island's 17 million people). Sri Lanka has the highest endemicity rate in its reptile fauna compared to all other physiographic zones in south Asia, which is concentrated in the south-western lowlands and the central highlands (Jansen and De Zoysa, 1992). However, Sri Lanka's dry zone with its semi-evergreen forests which constitutes four-fifths of the island's vegetation (see Dittus, 1977) remains to be sampled intensively.

Natural forest, which originally accounted for an estimated 89 per cent of the land area, had been reduced to 26.7 per cent in 1981, and was down to around 24 per cent in 1991. Habitat destruction, in the form of loss of forest cover, has been a major problem in conserving the biodiversity of the country. An important aspect of the distribution of wilderness areas in the country is that the major remaining areas of natural forest cover in the dry zone is within the protected areas and that the wet zone (which has both the highest biodiversity and endemicity in the country) has few protected areas. Part of the problem is due to the non-availability of data on species distribution and abundance.